Abstract of the Disclosure

In an apparatus for fluid analysis, such as hematologic analysis, a plurality of reagent-mixture components are each injected by a respective pump through a valve matrix and into a flow-injection unit. The flow-injection unit defines a mixing chamber including a plurality of protuberances or nubs projecting inwardly toward the center of the chamber, and spaced relative to each other both axially and radially. As the reagent-mixture components are injected into the mixing chamber, the nubs agitate the fluid flow and create turbulence, thereby dispersing the reagent-mixture components and in turn mixing the components together to create a reagent mixture. The flow rates of the reagent-mixture components are adjusted in order to select the reagent-mixture ratio as the components are combined in the flow-injection unit to thereby create the selected reagent mixture. Upon passage through the flow-injection unit, the reagent mixture is injected into a sensing unit for analyzing a particle distribution of the mixture.

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